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brunneis; sporis obovatis lalvibus longissime pedicellatis. On leaves of *Sida humilis* Willd. and *S. hirsuta*, Peradenia, Jan. 1855, Dec. 1867. There are rarely two cystoblasts parallel to each other.¹

Dr. Winter has a specimen on *Sida rhombifolia*, from South Africa, and with this he compares Mr. Earle's specimen and finds it to agree. He refers it to its proper genus and calls it *Puccinia Thwaitesii*, (B. & Br.) In the Linnæan Journal, for 1869, is the following:

Puccinia heterospora B. & C. Soris minutis in glomerulos orbiculares congestis brunneis; sporis subglobosis, pedicello deorsum attenuato subæqualibus, demum biseptatis. On the leaves apparently of some malvaceous plant.²

I received specimens from Mr. Earle in the fall of 1882, but with the resources then at my command was unable to determine them. More recently I have had access to the Curtis collection and references to the above descriptions. A comparison shows Mr. Earle's specimen to be identical with the original of *Puccinia heterospora*. As I have not seen *Uromyces Thwaitesii*, I can not say whether it is identical with *Puccinia heterospora* or not, but in either case Mr. Earle's specimens must be referred to the latter, which is the older name.

The host of the Curtis specimen is pretty certainly *Sida triquetra*.

In *Grevillea*, Vol. III, Dec., 1874, is described *Uromyces pulcherrima* B. & C. on *Abutilon Texense*, from Texas. I have examined the Curtis specimen and can not distinguish it from *Puccinia heterospora*. The collection also contains specimens labeled *Uromyces pulcherrima* B. & C. on *Abutilon parvulum* and *Anoda hastata*.

A. B. SEYMOUR.

EDITORIAL NOTES.

DR. CARPENTER, at the last meeting of the British Association, illustrated the power living forms have of adapting themselves to environment by the changes in the small-pox bacteria. Formerly the disease was very severe and known as the "black-pox," but at present it exists in a much milder form. During the last siege of Paris, however, the bacteria reverted to the original form and the "black-pox" again appeared.

WE HAVE HAD Kerner showing how plants have contrived to escape unwelcome insect visits, and our respect for plants has been thereby increased, although constructing a reason for everything is not always safe. But Mr. Alexander Wilson has gone farther, and at the British Association suggested that the closed ovary of the Angiosperms was a contrivance for the ovules to escape the attacks of parasitic fungi. That the closing up of the ovules is a hindrance to the action of the pollen can be understood, and to overcome it we find adaptations of tissue, modifications of structure, changes in the positions of ovules, etc. This outlay, Mr. Wilson reasons, is compensated for by some great advantage, which he concludes to be that already mentioned. He likens the closed ovary to Tyndal and Pasteur's sealed flasks, from which are kept all fungus spores,

¹ Berkeley and Broome, Ceylon Fungi, in Journ. Linn. Soc., Vol. XIV, p. 92, 1875.

² Berkeley and Curtis, Cuban Fungi, in Jour. Linn. Soc., Vol. X, p. 356, 1869.

even the air which gains admission being filtered through tissues and their secretions. This is one of those subjects which lead to the most tempting generalizations, but should be considered yet more as something interesting than settled.

THE GERMAN SCIENTIFIC EXPEDITION, under Dr. Koch, to investigate the Egyptian cholera has not yet reached any very definite results. The only thing set at rest is that the *Bacillus* is identical with that found in the case of Asiatic cholera.

WE NOTE that Dr. Farlow has received one of the numerous gold medals awarded by the juries of the late International Fisheries Exhibition, for his work on the marine algæ.

WE WOULD CALL attention to the capital address of Prof. E. Ray Lankester, as president of the biological section of the British Association, upon "The Endowment of Biological Research." It should be in the hands of all the boards of management of our colleges and universities, and may be found either in *Science* or *Nature*.

THE WAY THAT new species of fungi are pouring in upon us is rather overwhelming. Not a month passes without its lists of new species, which leads us to think either that we have never looked much for fungi before, or that specific lines are not yet well drawn.

WE HAVE JUST received notice of the death of Mr. CHAS. E. PERKINS, of Somerville, Mass. It will be remembered that he published in the GAZETTE for March of this year a list of the "Ballast Plants of Boston and Vicinity." He was a young man and a good collector, his large collection, left to the Middlesex Institute of Malden, being especially rich in introduced and ballast plants. He had in contemplation both a local flora and a garden flora, which his friends may be able to complete from his notes.

WE WOULD call attention to the extension of time given in competing for the GAZETTE prize, November 1 being substituted for May 1.

CURRENT LITERATURE.

Flora of Worcester county, Massachusetts. By Joseph Jackson. Published by the Worcester Nat. Hist. Soc. 1883. 48 pp. 8vo.

This society, but four years old, is doing a good work in bringing before the people of its own neighborhood information upon the various departments of natural history. This is done by placing in charge of its collections, which occupy three rooms, a competent custodian, whose services, not as guide only, but also as teacher, are freely at the disposal of the public. During the past year 20,000 visitors have availed themselves of this privilege. The pamphlet before us is but an outgrowth of this work, and is surely well done. The county extends north and south across the State and contains quite a diversity of surface so that both southern and northern New England may be said to be represented. Only the Phanogams and Vascular Cryptogams are included, not so much from desire, we infer, as from necessity. The list numbers 812 species, belonging to 387 genera. The only criticism that could be made is that there